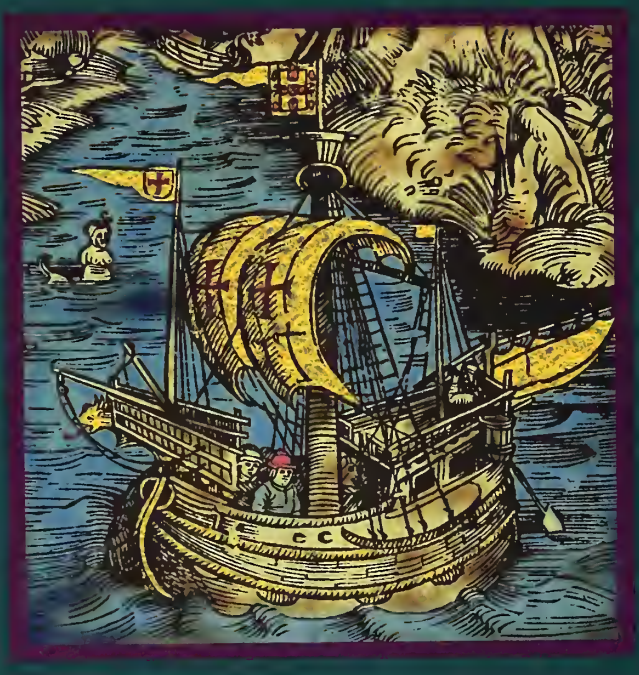
A Report of Stewardship 1995

Today's Search, Tomorrow's Answers: Pushing the Frontiers of Medicine

RUSH

Rush-Presbyterian-St. Luke's Medical Center



"Unless the spirit of research is in a hospital, unless it pervades the various branches of the medical institution, the educational function of the hospital languishes and the atmosphere becomes stale; things fail to progress and the patients suffer."

-JAMES B. HERRICK, MD

Rush Medical College Graduate 1888. Professor of Medicine at Rush 1890-1935.
First to describe sickle cell anemia. A pioneer in research on heart disease.

Contents

On the cover:
Engraved color map of the world published in 1482, based on maps drawn by ancient Egyptian philosopher and geographer Ptolemy.
(The Newberry Library)

Inside front cover:
1505 woodcut of Amerigo Vespucci's exploration of the New World.
(James Ford Bell Library)

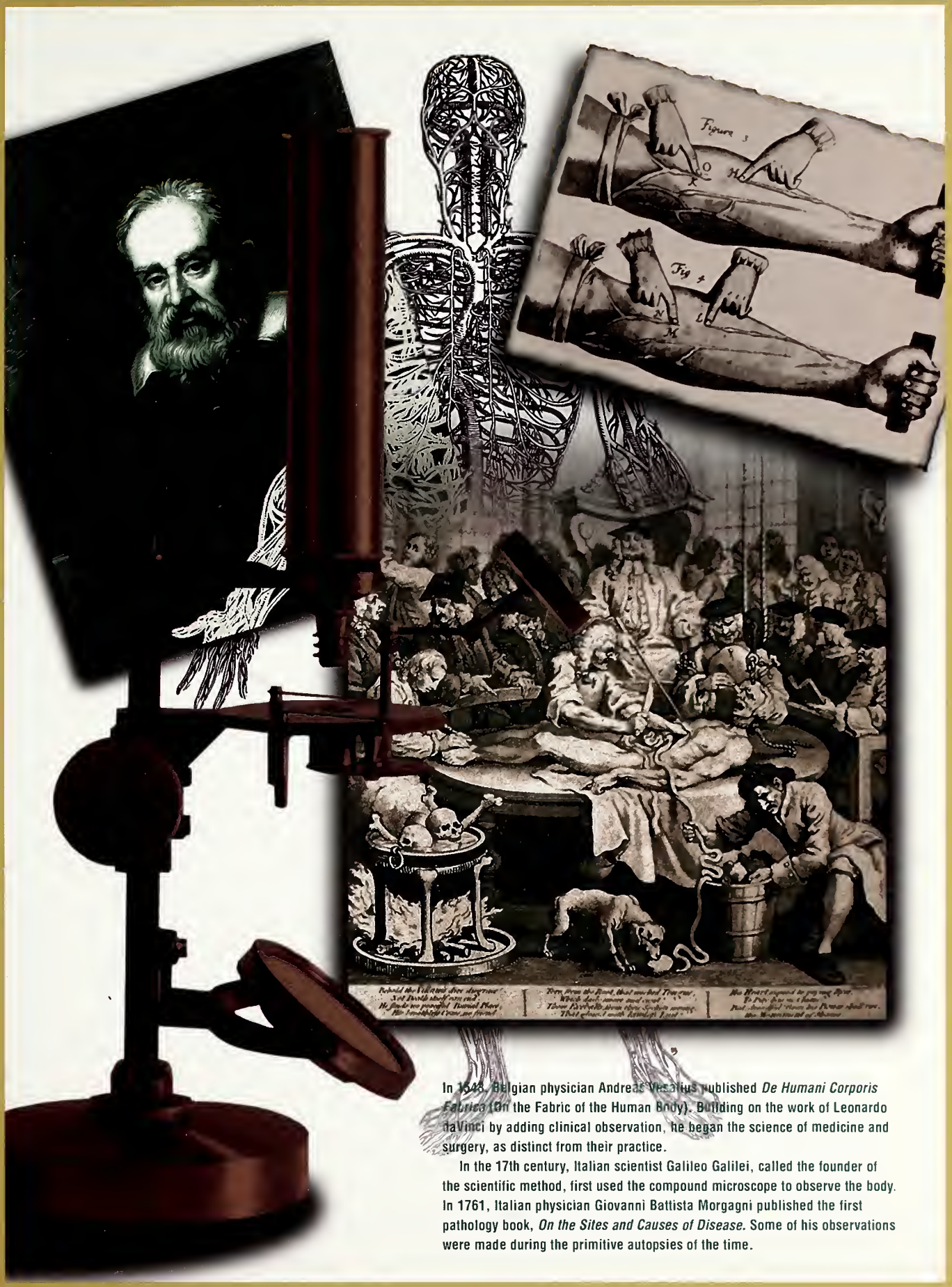
TODAY'S SEARCH, TOMORROW'S ANSWERS: PUSHING THE FRONTIERS OF MEDICINE

At the time that Christopher Columbus began his journey in search of the West Indies in the late 15th century, the science of medicine was in its infancy. It was not until 1543 that the first anatomy text was published by Belgian physician Andreas Vesalius and the science of medicine and surgery began.

From that time until today, physicians and scientists have continued their voyage, exploring the world of the human body. The journey has often been slow, and sometimes has led to a different destination than originally planned, but researchers have developed new and better instruments to chart their course, and have ventured on.

At Rush, the search for solutions to the problems patients encounter influences every aspect of the care provided. This year, researchers at Rush have worked at finding answers to questions ranging from how cartilage cells regenerate, to clinical research on whether a new drug can prevent prostate cancer, to finding better surgical treatments for heart disease. And always, the ultimate purpose of all research endeavors is to make life better, safer and longer for our patients.

In the following pages are just a few of the many examples of ways that research is helping to find answers to patients' problems.

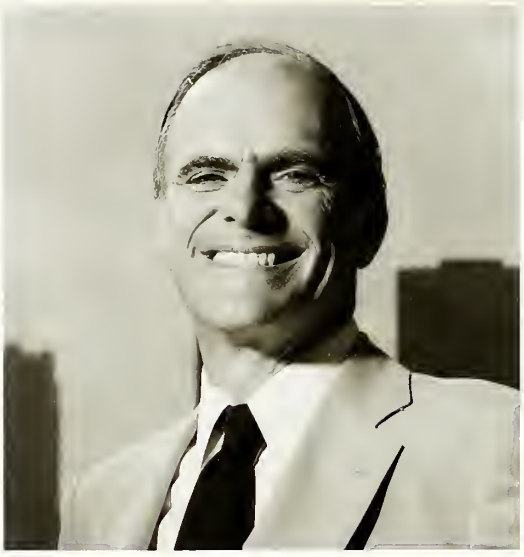


In 1543, Belgian physician Andreas Vesalius published *De Humani Corporis Fabrica* (On the Fabric of the Human Body). Building on the work of Leonardo daVinci by adding clinical observation, he began the science of medicine and surgery, as distinct from their practice.

In the 17th century, Italian scientist Galileo Galilei, called the founder of the scientific method, first used the compound microscope to observe the body. In 1761, Italian physician Giovanni Battista Morgagni published the first pathology book, *On the Sites and Causes of Disease.* Some of his observations were made during the primitive autopsies of the time.

Photos: The Bettmann Archive

Message from the Chairman



These are challenging times for institutions engaged in biomedical research. At the same time that advances in genetics and molecular biology have created hope of finding the causes of cancer and other diseases thought to be genetic in origin, money is becoming scarcer. Federal budgets are being cut, which threatens to reduce funds available from the National Institutes of Health, the nation's single largest source of research dollars. In addition, Medicare and Medicaid reimbursements have been lowered, forcing hospitals to make up shortfalls in patient revenues and reducing the amount of money available to fund research.

At Rush we have been able to maintain our commitment to bettering our patients' lives through research. Our research dollars from outside funding have increased steadily over the last five years, from $22.6 million in 1991 to $35.9 million in 1995. Last fiscal year, Rush received more than 51 percent of its research funding from the National Institutes of Health—a recognition of the quality of research conducted at the Medical Center. To the $18.6 million from the NIH was added more than $17 million from other governmental agencies, private corporations and foundations, healthcare organizations, and private philanthropy to fund the work of Rush physicians and scientists who are searching for answers to today's health problems.

At Rush University, endowments have created 67 chairs, with plans to endow eight more chairs in the coming year. Establishment of endowed chairs allows researchers the freedom to pursue medical research without concern about loss of funding.

This year, we have undertaken a formidable task: to raise funds to build a new research building. The proposed research building is vital to Rush's continuing ability to attract the kind of researchers whose work is described in these pages.

In spite of today's healthcare challenges, Rush is prepared to continue its valuable contribution to finding tomorrow's answers to today's healthcare problems.

Marshall Field
Chairman
November 8, 1995

Message from the President

More than 100 years ago, English physician and physiologist Sir Michael Foster said, "For indeed it is one of the lessons of the history of science that each age steps on the shoulders of the ages which have gone before. The value of each age is not its own, but is in part, in large part, a debt to its forerunners."

Certainly the many researchers at Rush would agree with Foster. Those who work in the world of science must build on the work of the past to make a better future—a future that may not be realized in their lifetimes.

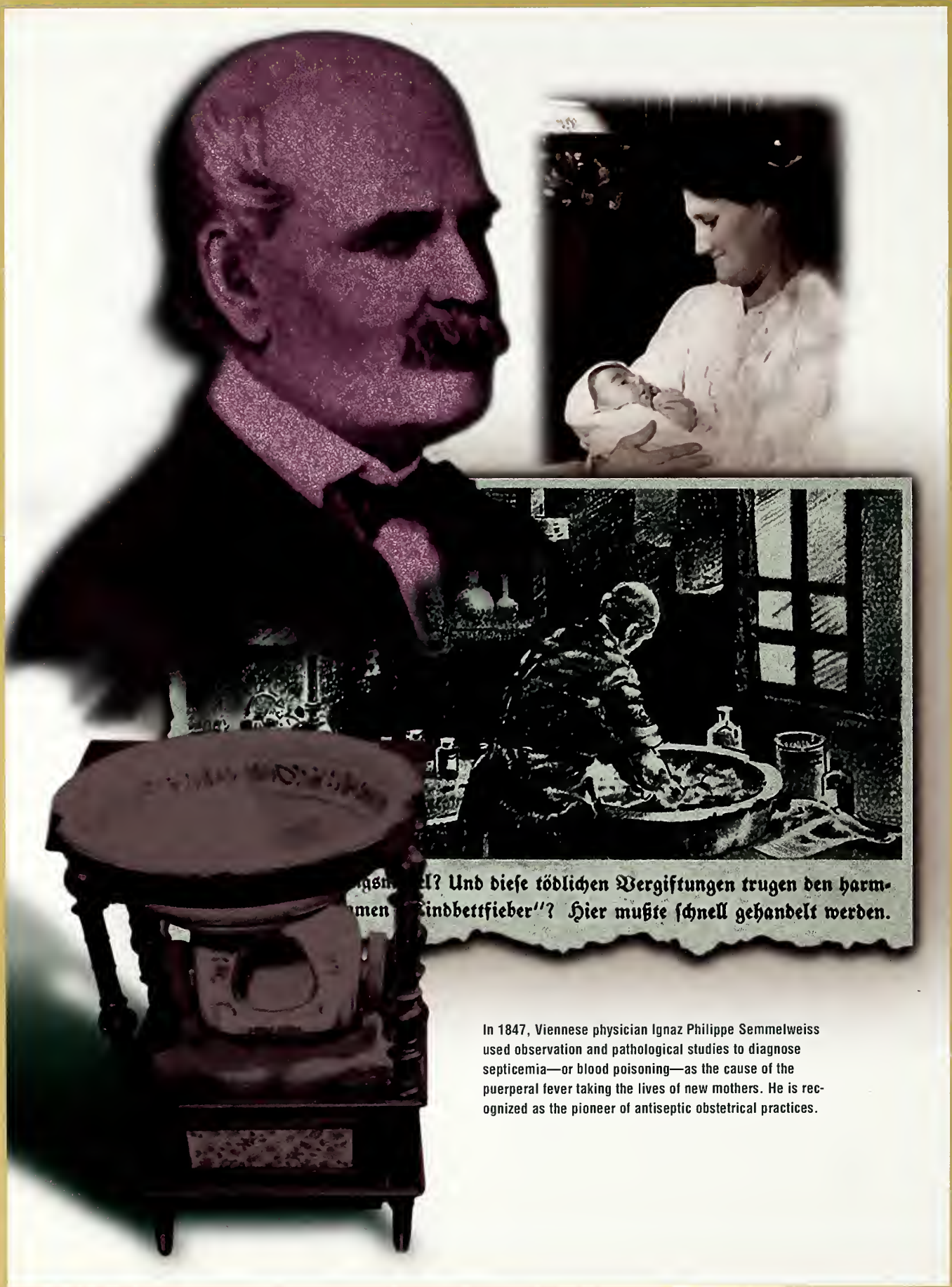
Since Foster's time, medical science has continued to build on advances of the 19th century. Wilhelm Roentgen's discovery of the X-ray has led to computerized views inside the body, such as the CT scan, and the newest imaging technique—positron emission tomography—that can reveal metabolic activity within body tissue. From the first correct drawings of gross anatomy by Vesalius in the 16th century, science has developed the ability to map genes and has identified the gene for cystic fibrosis.

This year has been a rewarding one for research at Rush-Presbyterian-St. Luke's Medical Center. Scientists have developed a new model to study intestinal absorption that has implications for the study of diseases such as cystic fibrosis and Crohn's disease. Researchers have identified an antibody linked to rheumatoid arthritis. Our clinical research, such as new treatments for heart disease and Parkinson's

disease, has provided immediate benefit to patients, as well as increasing knowledge in the field for the future. Epidemiologists are laying essential groundwork for further studies of diseases such as Alzheimer's. And the new studies begun this year on stroke, hypertension, women's health, and breast and prostate cancer may yield answers to problems that now threaten millions of Americans.

And all of our research—whether with patients, in the laboratory or in the community—is central to our mission of patient care. For today we must continue to develop safer, more effective, and more economical methods of helping people to get well and remain healthy, or tomorrow we will be practicing yesterday's medicine.

Leo M. Henikoff, MD
President and Chief Executive Officer
November 8, 1995



In 1847, Viennese physician Ignaz Philippe Semmelweiss used observation and pathological studies to diagnose septicemia—or blood poisoning—as the cause of the puerperal fever taking the lives of new mothers. He is recognized as the pioneer of antiseptic obstetrical practices.

Photos: The Bettmann Archive

Centers for Medical Excellence

Rush Institute on Aging
Rush Arthritis and Orthopedics Institute
Rush Cancer Institute
Rush Heart Institute
Rush Institute for Mental Well-Being
Rush Neuroscience Institute
Rush Primary Care Institute
Johnston R. Bowman Health Center
Rush Children's Hospital

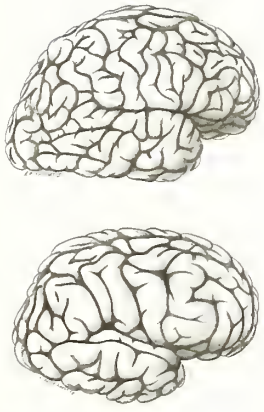
To bring the fruits of clinical research to patients as efficiently as possible, in 1990 Rush developed the Rush Institutes, multidisciplinary centers of excellence that combine research and patient care resources to address major health problems facing Chicago and the nation. Clinical investigations arise to find solutions to the problems patients encounter. Patients receive newer and more effective treatments developed by Rush physicians and scientists. Patients benefit also as Rush scientists share knowledge with researchers at peer institutions throughout the world.

At the Johnston R. Bowman Health Center, as at the Institutes, patients benefit from research conducted on the physical and psychological aspects of recovering from illness, injury or surgery. The center provides physical medicine and rehabilitative care for people with complex rehabilitation problems.

Rush Children's Hospital, one of only three full-service children's hospitals in the greater Chicago area, conducts cutting-edge research on problems affecting children from newborns to adolescents.

What follows are a few examples of the way researchers at these centers for medical excellence are working to make life better for patients at Rush and across the country.

Field interviewer Joyce Cleary (right) gathers information to help Alzheimer's researchers.



Normal brain (top) versus the brain of a person with Alzheimer's disease (bottom). Alzheimer's causes the brain to shrink. The grooves deepen and the folds degenerate.

PAVING THE WAY FOR ANSWERS TO ALZHEIMER'S DISEASE

Almost half of all Americans over the age of 85 have Alzheimer's disease. As life expectancy continues to increase, elderly people—and their families—face the grim possibility that their last years will see the loss of intellect and memory. In 1906, German neuropathologist Alois Alzheimer first described the condition, but until recently little research had been conducted on risk factors for this disease, which ultimately kills brain cells that control memory and thinking.

Epidemiologists at the Rush Institute on Aging and the Rush Alzheimer's Disease Center are conducting pioneering work to determine what factors besides age make people more or less likely to develop Alzheimer's disease.

The Rush study, called the "Chicago Health and Aging Project," is funded by a major grant from the National Institutes of Health. Researchers are surveying a record 10,000 people in racially and economically mixed communities on Chicago's south side. Surveyors gather information about family history and lifestyle, and note those residents who already have Alzheimer's disease. In three to four years, the group will be surveyed again to determine who has developed signs of the disease. The study seeks to determine whether race, education and sex affect the likelihood of developing Alzheimer's.

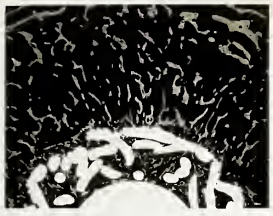
Residents of Chicago's Beverly neighborhood talk with field interviewer John Pickens.

Epidemiological studies lay the foundation for further research by analyzing the incidence and prevalence of diseases in relationship to a group of people. For example, if epidemiology has noted connections between race and a particular disease, scientists can then begin to examine genetic and environmental factors affecting members of that race.

The Rush Institute on Aging seeks answers to the disorders and diseases that affect older Americans, and works to educate health professionals about the physical and mental aspects of aging.

Data will help researchers determine prevalence of Alzheimer's disease among those age 65 and older.

Rush Arthritis and Orthopedics Institute



Scanning electron microscope image of an implant that was not treated with growth factor.

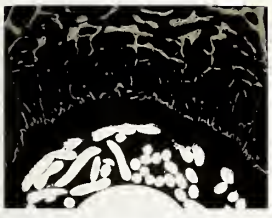


Image of an implant treated with growth factor, showing increased formation of new bone.

Understanding Why Joint Replacements Fail

Joint replacements have helped thousands of arthritis patients move without pain. But of the 150,000 hip and 100,000 knee replacements done annually in the United States, about 20 percent are revisions—that is, the original joint replacements have failed. On the average, an artificial joint lasts only about 10 years, which means younger patients may face the ordeal of repeated replacement surgeries.

To improve life for the tens of thousands of people who have artificial joints, the National Institutes of Health has awarded the Rush Arthritis and Orthopedics Institute $2.4 million to study why hip and knee joint replacements fail, how to lengthen the life of implants, and how to develop implants that provide greater flexibility.

Orthopedics nurse Lorraine Clemmings, MS, RN, checks hip movement in implant patient Diane L. Marsden.

The grant funds three areas of research. Scientists are working to identify those proteins that enhance bone growth and stimulate bone formation to see if injecting these growth factors can accelerate bone growth in an artificial joint, permitting greater stability. Other researchers are examining the cellular mechanisms that cause bone loss when tiny particles from implants are sloughed off through routine use of the artificial joint. A third group is focusing on the effects on the entire body of metal implant particles, so that materials can be developed for artificial joints that pose no long-term hazards.

Research at the Institute should lead to the development of longer-lasting implants.

Researchers in the Biomaterials Research Center include scientists in biochemistry, molecular biology, orthopedics and materials engineering.

Rush Cancer Institute

Stopping Prostate Cancer

Researchers at Rush are working to prevent prostate cancer.

Approximately 240,000 men are diagnosed with prostate cancer each year, 95 percent of them over the age of 55. Thanks to earlier detection, almost half of those diagnosed have localized disease, which is much more treatable than cancer that has spread.

In addition to studying better treatments for the disease, physicians and scientists at the Rush Cancer Institute recently began a seven-year study of a drug that may prevent prostate cancer. With funding from the

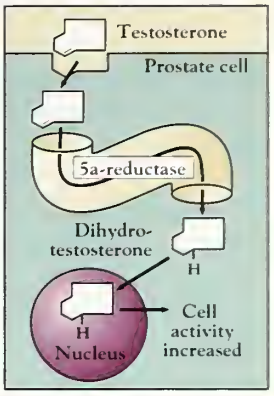
(From left) Brothers George, Roy and Paul Okamoto decided to participate in the prostate cancer prevention trial because family members suffer from the disease.

National Cancer Institute, researchers are testing finasteride, a promising new drug that appears to keep the prostrate from manufacturing dihydrotestosterone, a hormone linked to prostate cancer. Researchers are examining whether the pill can delay or prevent prostate cancer and benign prostate enlargement, which can cause urinary problems.

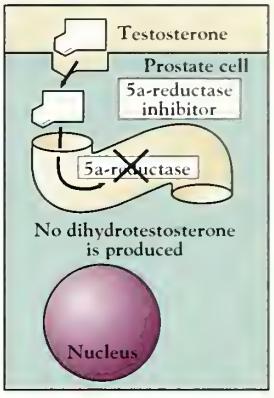
Also under study at the Institute is an innovative treatment for prostate cancer called cryotherapy—a procedure that kills cancer cells by freezing them, and may be as effective as surgery with less pain and fewer complications. To give patients better access to new developments in prostate cancer, the Institute plans to open a Comprehensive Prostate Center in late 1995.

The seven-year study is funded by the National Cancer Institute.

Early in 1995, researchers at the Institute received notice of a grant from the National Cancer Institute to direct the country's first tests of estrogen replacement therapy for breast cancer survivors. Researchers want to learn whether estrogen increases the likelihood of recurring breast cancer, because other investigations indicate that it protects women from heart disease and osteoporosis. Other Institute researchers are participating in a national study of a vitamin A derivative to prevent second lung cancers in people who have already been successfully treated for the disease.



In the cell nucleus, testosterone is normally converted by 5a-reductase to dihydrotestosterone. Dihydrotestosterone contributes to increased cell activity, which can lead to cancer.



Finasteride inhibits 5a-reductase and decreases the production of dihydrotestosterone. This, in turn, decreases cell activity and lowers the risk for cancer.

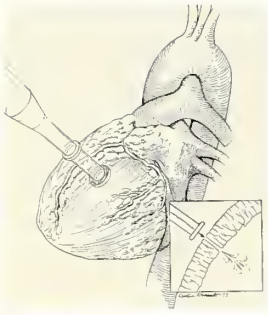
Rush Heart Institute

Finding New Ways to Keep Sick Hearts Beating

Although he had a family history of heart disease, high blood pressure and high cholesterol, Vernon Washington managed to reach his 60s without a heart attack. But when the 64-year-old Hyde Park resident came to the Rush Heart Institute with chest pain last December, tests showed that advanced coronary disease had seriously damaged his heart muscle. Bypass surgery alone would not provide sufficient blood to his heart muscle, because he had too few healthy blood vessels to connect with the bypass grafts. Instead, Mr. Washington was treated with a combination of bypass surgery and a new procedure called transmyocardial laser revascularization (TMLR). The procedure is being tested at Rush as part of a national study. More than 30 Rush patients have benefitted from the procedure, in which

Surgery makes life easier for some heart patients, like Vernon Washington (right).

Hyde Park resident Vernon Washington underwent a heart bypass in combination with a new laser surgery now being tested at Rush.



In TMLR, a surgeon uses a laser to drill holes into the heart muscle. This improves blood flow.

a surgeon, using a laser, "drills" holes about the diameter of pencil lead into the heart muscle. Almost all patients have less chest pain after the procedure, the majority have better blood flow, and no one has suffered ill effects from the laser surgery. Mr. Washington, who is retired, swims regularly and loves to take walks down to the lakefront.

For patients whose blood vessels are too diseased for bypass surgery or balloon angioplasty, TMLR offers relief from pain. It frequently is combined with bypass surgery for patients like Mr. Washington.

This year, the Rush Heart Institute has also been studying new medical therapies for blocked coronary arteries, and investigating synthetic material for bypass grafts. The Rush Heart Institute conducts research to improve the diagnosis and treatment of heart disease, including drugs to strengthen the heart muscle in those awaiting heart transplantation. Scientists and physicians are also studying prevention of cardiovascular disease through early and aggressive treatment of risk factors.

Researchers are also looking at better ways to prevent heart disease.

WORKING TO PREVENT TEEN SUICIDE

LOSS, a Catholic Charities program, provides an eight-week program for people who have lost a loved one to suicide.

Suicide is an equal opportunity killer. Each year, more than 30,000 Americans—black and white, male and female, rich and poor—kill themselves. About 2,000 of them are teenagers. In fact, suicide is the third leading cause of death for persons between the ages of 15 and 24.

To determine if the problems that lead some teens to kill themselves are different from those of teens who unsuccessfully attempt suicide, researchers in the Rush Institute for Mental Well-Being used a method called psychological autopsy, piecing together a picture of each of the 150 teens between ages 15 and 19 who killed themselves in Cook, Kane and DuPage counties from 1990 to 1995. The five-year study was funded by the National Institute of Mental Health. Researchers interviewed the parents, siblings and friends of the deceased children individually to get their sense of the teenagers' moods in the last months and days of their young lives.

Still being analyzed, study data indicate that teens who take their own lives suffer from psychiatric illness just as their adult counterparts do, but the variety and duration of their illnesses are quite different. Some of the teens suffered from depression of extremely short length—as brief as a few weeks—before they committed suicide. Most of them ended their lives violently. Guns accounted for 60 percent of the suicides, and hanging 14 percent.

Charts show the rates of general suicides and teen suicides in the United States.

The study findings should help primary care physicians, school counselors, and mental health professionals identify young people at risk and

LOSS—Loving Outreach to Survivors of Suicide—a self-help group for newly bereaved family and friends, served as a resource for Rush researchers.

Suicide devastates entire families, sometimes whole communities.

prevent this loss of life that devastates whole communities. With funding from Ronald McDonald Children's Charities, Rush researchers have begun a suicide prevention project for greater Chicago using knowledge gained from the study.

The Rush Institute for Mental Well-Being specializes in helping people who suffer from difficult-to-treat depressive disorders. Now under study are innovative treatments for depressive, obsessive-compulsive and panic disorders, and schizophrenia. Studies are under way on the efficacy of psychotherapy combined with medication in treating severe depression.

Rush Neuroscience Institute

Exploring Faulty Brain Signals

One million Americans suffer from Parkinson's disease, a disorder that results when the brain does not produce enough dopamine, a chemical that carries signals between nerve cells in the brain. Without this substance, body movements are out of control: nerve cells that suppress movement become furiously overactive, making it difficult to begin and sustain movement—patients freeze up. If able to walk at all, they usually have a slow, shuffling gait. At the same time, nerve cells in other parts of the brain become dysfunctional and the patient experiences uncontrollable tremors. Many people suffer depression, insomnia and pain from rigid muscles. Eventually, Parkinson's patients become paralyzed.

During pallidotomy, the neurosurgeon threads a probe deep into the globus pallidus and burns away a tiny slice of malfunctioning neurons.

Neurologists and neurosurgeons at the Rush Neuroscience Institute are testing several new drug therapies and a surgical treatment that relieve symptoms in some patients. During the surgery, called pallidotomy, a tiny electrode is inserted into the pallidum, a part of the brain that controls movement. The electrode identifies the abnormal cells and a larger electrode "burns" them out. First used 40 years ago, pallidotomy has become more precise with the help of magnetic resonance imaging. While not a cure, the procedure provides relief from the rigidity and tremors for patients for whom levodopa—or L-dopa—the most commonly prescribed drug for Parkinson's disease, has ceased to be effective. Researchers are also working on identifying and treating Parkinson's disease in its earliest stages, studying alternative drug treatments for patients

Guided by magnetic resonance imaging, Rush neurosurgeons map the electrical activity in the brain of a Parkinson's patient.

Neurosurgeon Richard Penn, MD, and his surgical team determine precisely where the probe must be placed during a patient's upcoming surgery.

who do not respond to L-dopa, and exploring new treatments for patients with advanced Parkinson's, who need an almost constant flow of medication to control their disease. In hopes that healthy brain tissue may someday be implanted to replace dying brain cells, Rush scientists are also studying cells that produce growth factors in the brain.

Researchers in the Rush Neuroscience Institute study innovative treatments for disorders of the brain and central nervous system, including Alzheimer's disease, stroke, multiple sclerosis, and epilepsy, as well as Parkinson's disease and other movement disorders.

Rush Primary Care Institute

Looking at Emergency Care for Asthma Patients

Every year, half a million Americans are hospitalized due to asthma, a chronic respiratory disorder that affects 10 million people, causing wheezing, shortness of breath, and—left untreated—death. Both incidence of and deaths from asthma have increased during the last 15 years.

Asthma treatment must be monitored tor effectiveness.

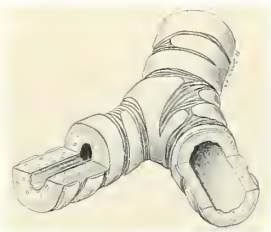
Children have been hit the hardest, with asthma rates rising fastest among those under age 4. Deaths from asthma have risen alarmingly among children 5 to 14 years old. Researchers estimate that annually there are more than 1.5 million pediatric asthma visits to emergency departments and more than 200,000 pediatric hospitalizations due to asthma. Because of the threat posed by asthma attacks and asthma's prevalence among the poor, most people seek treatment for asthma attacks in hospital emergency departments.

Samuel Jones, an 8-year-old asthma patient, has his lung function checked by Rush pediatric allergist Evalyn Grant, MD, while his mother, Paula, looks on. Grant is using a technique called computerized spirometry.

Researchers at the Center for Health Services Research at the Rush Primary Care Institute recently published results of a study indicating that U.S. emergency departments do not uniformly provide pediatric asthma care that conforms to guidelines developed by the National Institutes of Health (NIH). In fact, less than one-third of emergency department directors had even read the guidelines.

Prompt treatment is vital to open up blocked airways caused by asthma.

Investigators found that a test to measure air flow was seldom performed, although it is recommended to assess the severity of asthma attacks as well as to serve as a baseline to monitor effectiveness of drug therapy. Another finding shows that steroids, recommended as first-line treatment to prevent further asthma attacks, are infrequently prescribed. Few hospitals scheduled follow-up visits, and even fewer offered evening appointments, a necessary accommodation to parents who cannot take time off from work to take their children to the doctor.



Drawing shows diminished size of bronchial tubes (left) in people with asthma, compared to normal airway (right).

Researchers at the Institute plan further investigations to determine if following the NIH guidelines reduces death and hospitalization.

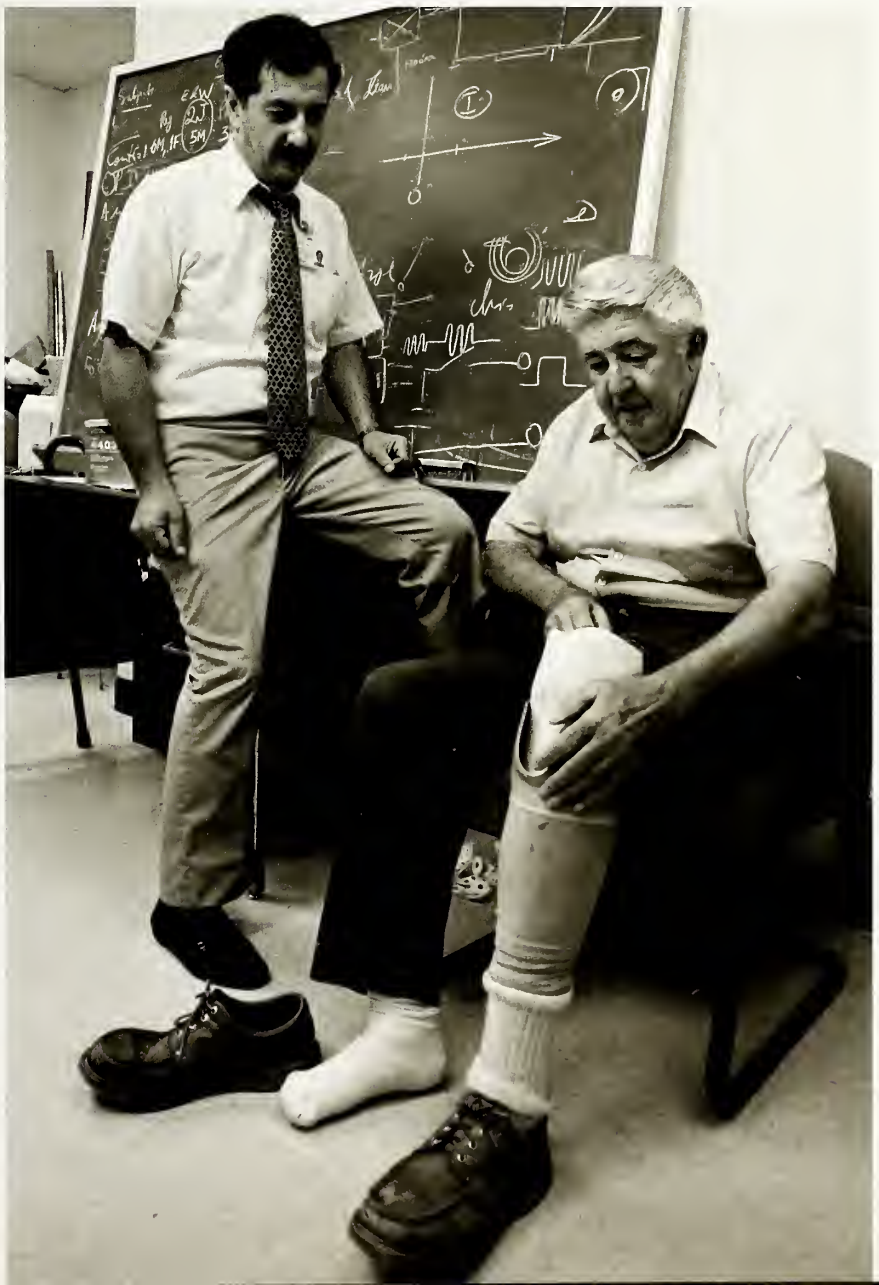
FINDING BETTER WAYS TO HELP AFTER AMPUTATION

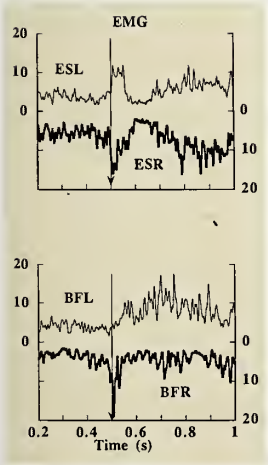
Losing a leg is a devastating event, requiring major physical—and psychological—adjustment. Physicians, psychologists and other scientists at the Center for Rehabilitation at Johnston R. Bowman Health Center, conduct research on both the psychological and biomechanical aspects of leg amputation, an ordeal faced by 60,000 Americans annually.

Results of a study of more than 100 people, published in April by researchers in the center, indicate that following amputation, a person's changed body image affects not only his or her emotional state, but the ability to adjust to an artificial leg and resume an active life.

The loss of a leg also affects balance and muscles in the upper body.

Researcher Alexander Aruin, PhD, talks with patient Robert Gibson in the motor control laboratory.





Researchers use computers to measure muscle action before and during movements.

Although improvements in prosthetics render artificial limbs almost unnoticeable in most circumstances, researchers found that patients who felt bad about the way they looked suffered from depression, and did not adjust to using a prosthesis as well as those who felt positive about their appearance. The study shows that healthcare professionals need to be alert to patients' concerns about their changed body image, and screen them more closely for depression and other adjustment problems.

Information from ongoing Rush studies will guide rehabilitation specialists.

Researchers in the Physical Medicine and Rehabilitation motor control laboratories are studying muscular action in patients with below-the-knee amputations. Early results show that losing a limb creates havoc in the circuit between the brain and the remaining part of the leg. While the central nervous system eventually learns to compensate, physiatrists are using these findings to develop methods of strengthening the remaining limb to help people get the best use of artificial legs.

Physiatrists are physicians who practice physical medicine and rehabilitation. They oversee a team of professionals who design programs that address the psychological and physical aspects of returning people to a maximum level of function after accident, illness or surgery.

Rush's 44-bed Center for Rehabilitation specializes in treating patients with complicated needs due to fragile health, movement disorders such as multiple sclerosis and Parkinson's disease, or amputation.

Rush Children's Hospital

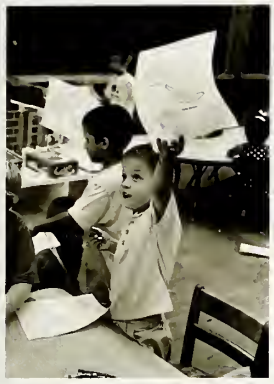
A Breakthrough in Understanding Digestion

Each year, more than 1,000 children in America are born with cystic fibrosis, the most common inherited fatal disorder among Caucasians. The disease causes the body's mucus to become thick and sticky, clogging the organs it is supposed to protect. Most affected are the lungs and the pancreas, which is vital to digestion.

John was diagnosed with cystic fibrosis when he was 2 months old.

Thanks to improved treatments, more patients with cystic fibrosis are living well into adulthood, but they are developing new intestinal problems, possibly due to side effects of treatments that help them digest food and absorb nutrients.

This year, researchers in the cystic fibrosis center at the Rush Children's Hospital developed a new method to study intestinal function



Aggressive treatment of cystic fibrosis is lengthening the lives of children, like John Weyland, who have the disease.

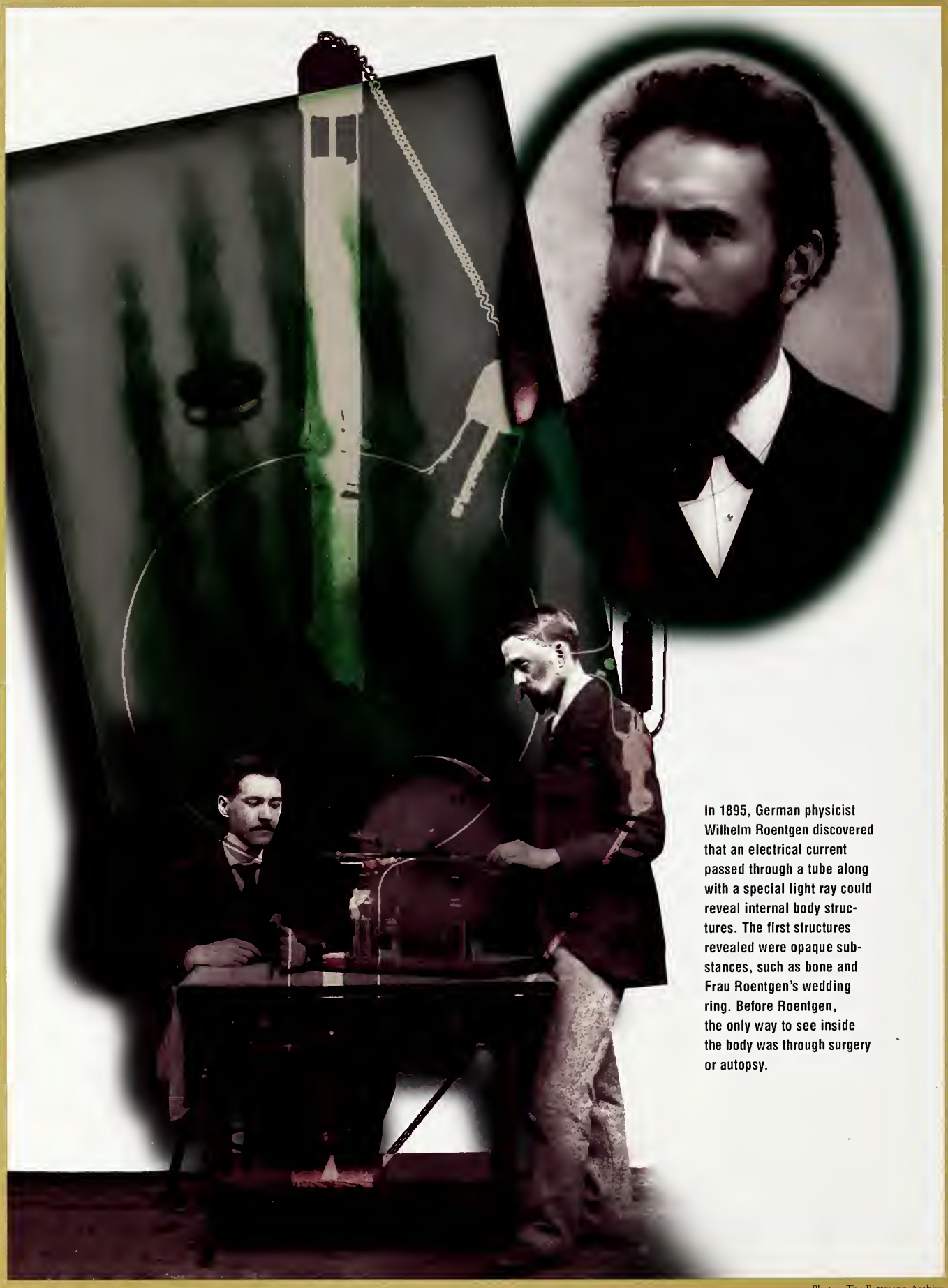
that is revolutionizing research in cystic fibrosis and other diseases affecting digestion. The model makes it possible for researchers to study absorption of food and chemicals in living animals. It enables scientists to study malfunctions in the small intestine caused by too little—or too much—pancreatic enzyme in patients with cystic fibrosis, who take the enzyme to replace enzymes the diseased pancreas cannot secrete.

Hailed by the scientific community in an editorial in the international journal *Nature*, the model holds enormous significance for the study of intestinal absorption. Problems in intestinal absorption are seen in many autoimmune diseases, including systemic lupus erythematosus, rheumatoid arthritis and Crohn's disease, a disease that is appearing with increased frequency in older cystic fibrosis patients.

Rush Children's Hospital provides a full range of medical, surgical and psychiatric services for children, from newborns to adolescents. Facilities include a pediatric emergency room, a 20-bed critical care unit and a child psychiatric unit.

The colon of cystic fibrosis patients becomes thickened with scar tissue, increasing their risk for painful bowel obstructions.

Six-year-old John Weyland (left) plays like any normal boy, thanks to advances in treating cystic fibrosis.



In 1895, German physicist Wilhelm Roentgen discovered that an electrical current passed through a tube along with a special light ray could reveal internal body structures. The first structures revealed were opaque substances, such as bone and Frau Roentgen's wedding ring. Before Roentgen, the only way to see inside the body was through surgery or autopsy.

Photos: The Bettmann Archive

Founded in 1972, Rush University has grown to include four colleges—in medicine, nursing, allied health sciences and basic science—with more than 1,450 students in all. Faculty at Rush University received more than $35 million in outside funds for research in the 1994-1995 academic year.

EXPLORING A HEALTHIER FUTURE FOR WOMEN

The Department of Preventive Medicine was awarded $8.9 million from the National Institutes of Health (NIH) to study health issues affecting minority women. In cooperation with Cook County Hospital, Rush will enroll 3,620 women—at least 60 percent of them African-American—in the national study, the largest single study ever funded by NIH. Called the Women's Health Initiative, the study will follow 163,000 U.S. women for 15 years to sift out risks and to determine how diet, hormone replacement therapy, calcium and vitamin D can improve a woman's future.

TRYING TO SLOW THE PROGRESS OF HIV INFECTION

For patients with the human immunodeficiency virus (HIV), the progressive wasting—or loss of muscle and fat—contributes as much to their weakness and dependence on caregivers as the infections that continually attack them.

Joyce Keithley, DNSc, measures body fat in her study of nutrition supplements as part of HIV treatment.

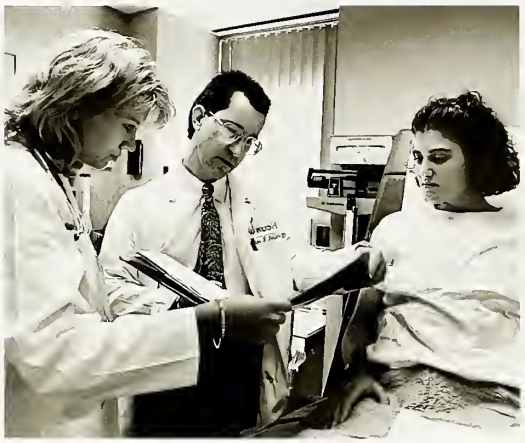
Under a grant from the National Institutes of Health, researchers in the Rush College of Nursing are studying how supplemental nutrition in the early stages of HIV infection affects the progress of the disease. The three-year study follows outpatients at the Rush, Cook County and University of Illinois HIV clinics.

Researchers theorize that supplemental nutrition will not only minimize the malnutrition that accompanies late-stage infection, but can slow the progress of the disease.

After suffering a stroke in 1985, Sylvia Fulton changed her lifestyle and started taking medication to prevent further strokes.

Examining Stroke in African-American Men and Women

African-Americans are twice as likely as Caucasians to suffer strokes, and are also twice as likely to die or be seriously disabled by them. Researchers at the Rush Neuroscience Institute are leading one of the largest ever stroke prevention studies, funded by a $10.8 million grant from the National Institutes of Health. The research targets a group at high risk for strokes—African-American men and women over age 29. The project will compare benefits of two blood clot prevention drugs, aspirin and ticlopidine, in 1,800 people who have recently suffered mild-to-moderate strokes.



Rush transplant specialist Preston Foster, MD, discusses a new drug therapy that is helping 20-year-old kidney transplant patient Moriea Lydon avoid infection and organ rejection.

Finding Better Drugs for Transplant Patients

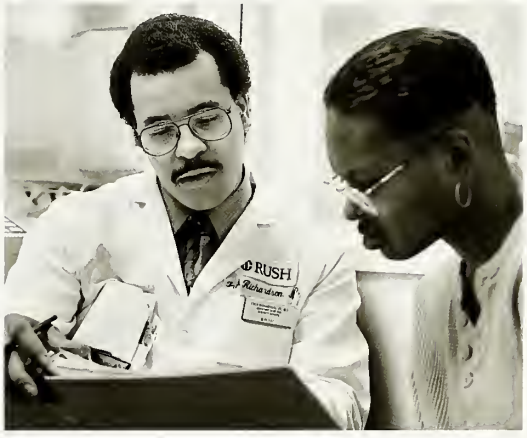
All transplant patients must take medication to keep their bodies from rejecting the new organs. But since these drugs suppress the body's natural immune response, they leave patients vulnerable to infection.

Rush is one of six centers in the United States testing a new anti-infection drug in liver transplant patients that appears to treat infection and rejection simultaneously. Called "granulocyte colony stimulating factor," the drug mimics natural hormones that stimulate granulocytes, which make up the majority of the body's white blood cells—the infection fighters. The drug has reduced infection and organ rejection in liver transplant patients at Rush. It allows patients to be treated with a synthetic form of their bodies' naturally occurring hormones.

RUSH MEDICAL COLLEGE

Minority Affairs Post Established

Rush Medical College has established the post of assistant dean for minority affairs to further efforts to increase the number of medical students from underrepresented minority groups. The national goal of the Association of American Medical Colleges, to which Rush belongs, is to have 3,000 minority students enrolled in medical school by the year 2000. Fred Richardson, Jr., MD, a Rush Medical College graduate and associate professor of family medicine, was appointed to the position.



Fred Richardson, MD, associate professor of family medicine, has been appointed assistant dean for minority affairs.

Rush Graduates Choose Primary Care

A record 46 percent of Rush Medical College's 1995 graduating class will pursue residencies in internal medicine, family medicine or pediatrics. Last year, 40 percent of graduates entered primary care residencies. Making allowances for future specialization, it is projected that 38 percent will end up in primary care practice, moving Rush closer to the national goal of 50 percent.

RUSH COLLEGE OF NURSING

In fall of 1995, the College of Nursing received funds from the U.S. Public Health Service's Bureau of Health Professions to begin a graduate-level Acute Care Nurse Practitioner Program. Nurse practitioners are registered nurses with either master's or doctoral degrees, or postgraduate specialty certification. In collaboration with physicians, they provide frontline health care to patients of all ages. In 1994, the college expanded its nurse practitioner program to answer the demands created by managed care and shortages of rural physicians. The new program will prepare nurses to serve in critical care, surgical intensive care, high-risk obstetrics and pediatrics.

Karen Kopischke, ND, RN, neonatal nurse practitioner, cares for an infant who was born almost three months premature.

The College of Health Sciences

In 1995, 83 students received bachelor's or master's degrees in audiology, clinical nutrition, speech-language pathology, health systems management, medical technology, perfusion technology, medical physics and occupational therapy. Plans are under way to offer a master of science degree in health care ethics, sponsored by the Department of Religion, Health and Human Values.

The Graduate College

In 1995, nine students were awarded doctoral degrees in the biological sciences. More than half of the 65 students enrolled in the doctoral program are in the departments of Biochemistry or Immunology, with the remainder in Anatomical Science, Medical Physics, Neuroscience, Pharmacology, and Molecular Biology/Physiology.

Rush and Cook County Build Academic Partnership

Rush and Cook County Hospital have entered into an arrangement designating Rush as County's sole medical school affiliate. It allows medical students, residents, and fellows to train at both hospitals under one academic structure. Agreements have been signed in more than 20 disciplines, including internal medicine, general surgery, family medicine and pediatrics. Cooperative opportunities in research and community health care delivery are also being explored.

Thomas Schmid, PhD, (right), associate professor of biochemistry in the Graduate College, talks with graduate student Brian Pfister.

In 1928, Scottish bacteriologist Alexander Fleming discovered penicillin. A few years later, in 1940, physiologist Howard W. Florey demonstrated that penicillin combats infectious microorganisms, ushering in the age of antibiotics.

Photos: The Bettmann Archive

Fourth-year medical student Karin Molander looks over a patient's chart.

LEARNING THROUGH HELPING OTHERS

In 1989, students at Rush Medical College began volunteering at St. Basil's Clinic on Chicago's south side. Today, nearly half of the medical school's 500 students participate in the Rush Community Service Initiatives Program, a noncredit educational component of the Department of Preventive Medicine at the college.

In the early summer, students began volunteering weekly at the Community Health Clinic, a nonprofit organization providing preventive and primary healthcare services to members of the West Town community, who have no other access to medical care.

Community Health Clinic is the newest of a dozen programs offered by the Rush

Medical student Anthony Kim talks with Mr. and Mrs. Jose Ruvalcaba about their sick child at Community Health Clinic.

Community Service Initiatives Program. Projects range from counseling teenagers on reproductive health and sexually transmitted diseases to providing a health needs data base at Casa Guatemala, a community center aiding the 13,000 Guatemalan refugees in Chicago. Students also run a community early-intervention program for children with asthma at Henry Horner Homes on the west side, participate in big brother/big sister activities for children with HIV infection, and many other projects.

SERVING AS MENTORS TO WESTSIDE YOUTH

The Henry Horner Boys' and Girls' Club, near the Chicago stadium, serves children from the surrounding housing development of the same name. This fall Rush Medical College students began a mentoring program for children age 6 to 18. Not only do students share scientific knowledge with the kids, but the children get a chance to develop relationships with someone from outside their community.

Taking Science on the Road

A former Rush bloodmobile became a mobile science lab in February. The van visits about two dozen westside Chicago elementary schools that do not have science labs. An electronic microscope with a tiny video camera can project slides onto a television monitor. Kids can use a laptop computer, and view science tapes on the mobile classroom's VCR.

This year the Westside Science and Math Excellence (SAME) Network, begun in 1992 to foster interest and ability in math and science in westside youngsters, started an innovative program for Rush employees to learn about math and science and to share these activities with their children. The network also hosted 100 students from neighborhood elementary schools in a science and math workshop conducted by Rush employees. SAME sponsored a trip by 80 westside students to an outdoor camp in Ohio, where they helped build a geodome, suspension bridge and raft, dissected small animals and made natural inks.

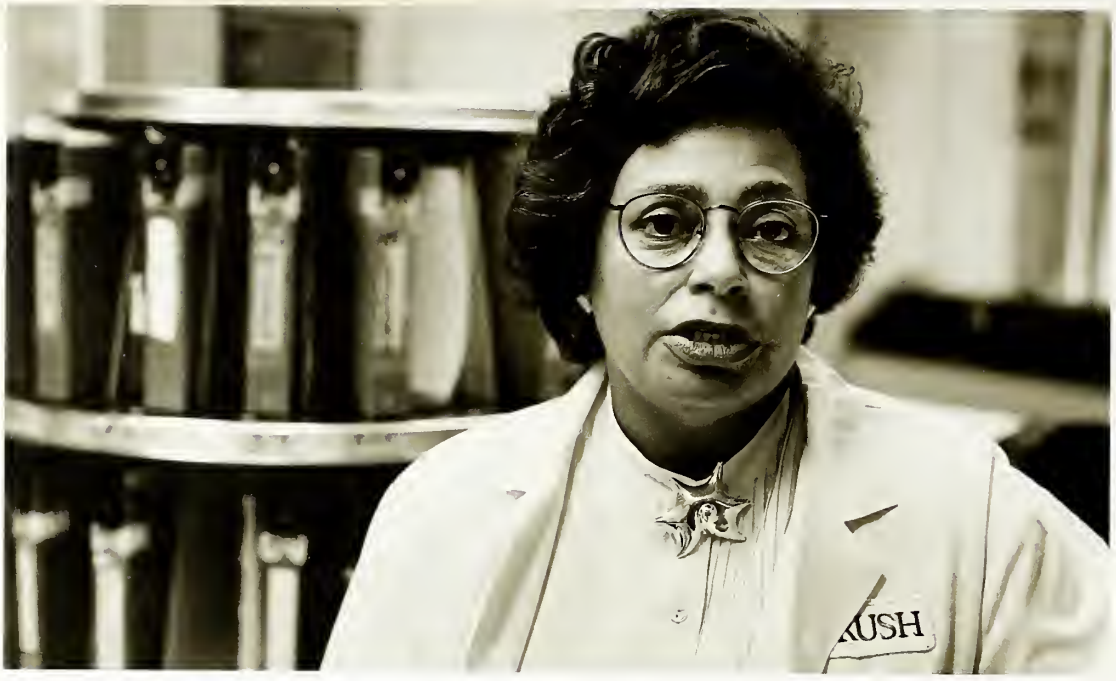
Helping the Hispanic Community

In fall of 1994, a Rush physician began offering healthcare services to the homeless through Pilsen Homeless Health Services. The clinic now serves a range of people from children through the elderly. Students from Rush Medical College conduct physicals, take health histories, and present cases to attending physicians. At a Franciscan homeless shelter, Rush physicians and medical students provide the only medical care for many of the 250 shelter residents.

Nurse Practitioner Students Care for the Homeless

The Rush College of Nursing received a grant from the Washington Square Health Foundation to provide clinical training for graduate nursing students at Interfaith House, a facility providing short-term housing and social services for homeless men and women recovering from illness. Nurse practitioner students will provide physical assessment and ongoing care to residents.

Students from the west side help to build a geodome at camp in Ohio.



Ruth Williams, MS, RN, a nursing unit director, puts great value on education for herself and others.

Last year, Rush formalized its commitment to its employees by adding employee development and professional growth to its mission statement. Below are stories of just three of more than 500 employees who are furthering their careers while at Rush with the help of a tuition reimbursement program. More important, they have the encouragement of their supervisors, and they benefit from Rush's philosophy of promoting from within.

A COMMITMENT TO EDUCATION

Ruth Williams started working at Rush in 1960 as a clerk on a patient unit. Over the next three decades, while working full time—and raising two children as a single mother—she obtained a diploma as a Licensed Practical Nurse, a bachelor of science degree in nursing, and, in 1992, a master's degree in nursing administration. Today, as a nursing unit director, Williams remains committed to education on the job and off. She encourages her staff to seek advanced degrees, and is making plans to return to school herself, this time for an advanced business degree.

A REWARD FOR INITIATIVE

From the time he came to work at Rush in 1988 as a busboy in the Searle Conference Center, Mexican immigrant Manuel Guzman looked for opportunities to take on more responsibility and to learn new skills. Today, thanks to this initiative and drive, Guzman is a secretary in the Medical Center's main supply room—and a part-time college student who will complete a bachelor's degree in business next spring.

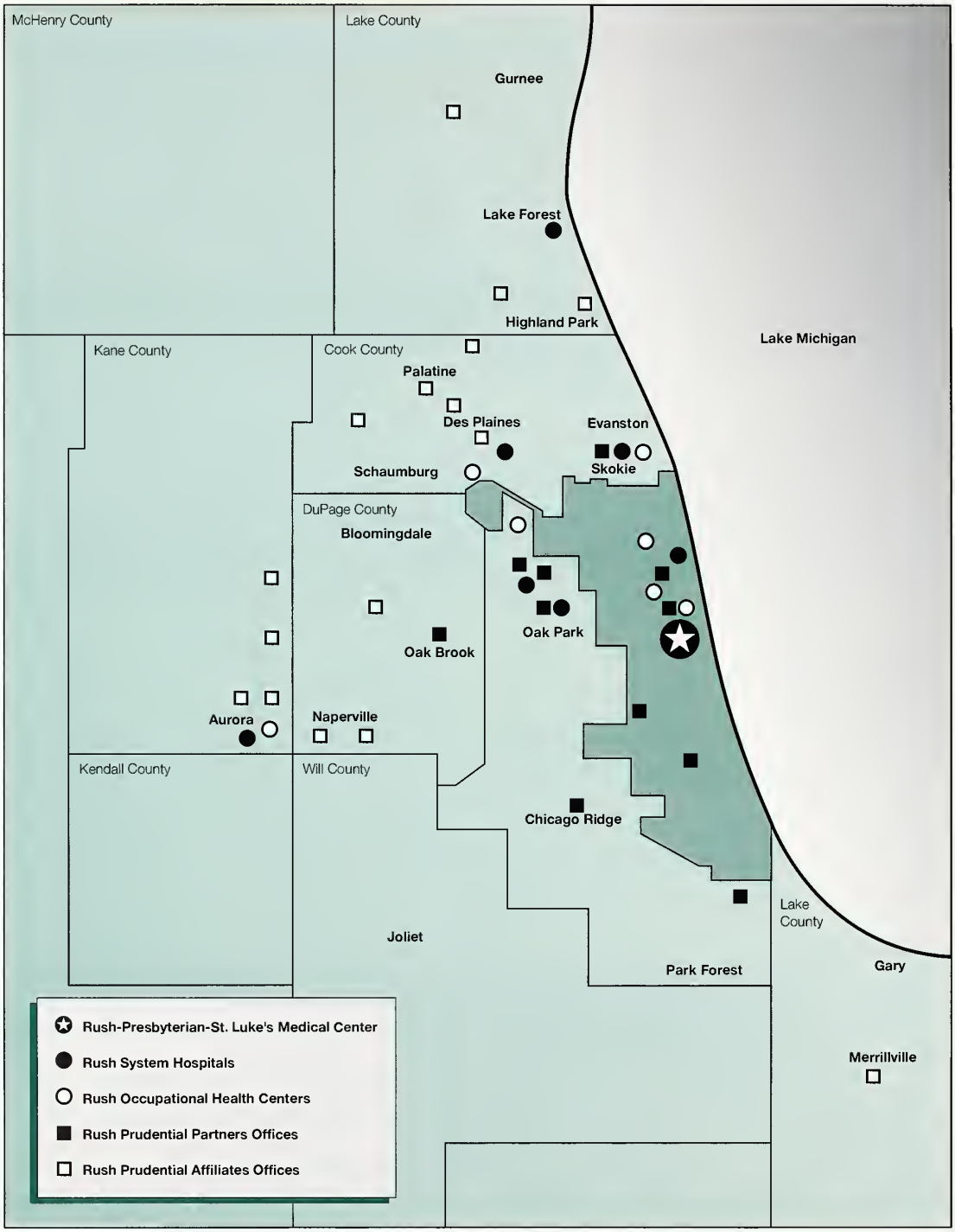
Manuel Guzman is a secretary and and soon-to-be college graduate.

This fall, he took a three-month leave from Rush to study international business in Vienna, Austria. He will return to Rush in early 1996, and, in addition to his job, will begin work on a master's degree in business.

A Focus on Quality

Quality has been the focus for Marcia Hargreaves since before she started at Rush in 1974 as an X-ray technician with two years of post high school training. She was promoted to supervisor in 1978, and in 1982, Hargreaves left the department of radiology and became a quality coordinator for the Medical Center—an opportunity that came just months before she completed her bachelor's degree in health arts. Today, she directs the Department of Quality Improvement, which oversees the Medical Center's efforts to provide the best and most efficient patient care, and is pursuing a master's degree in health services administration.

Marcia Hargreaves, director of the Department of Quality Improvement, is seeking an advanced degree in healthcare administration.



Map: The Rush System for Health

SYSTEM BOARD FORMED

The Board of Directors of Rush System for Health, Inc., which incorporated in late summer, has named Theresa Hush Stoica executive director of the corporation. The seven-member board is composed of member hospital presidents. The corporation's headquarters are located on the campus of Rush-Presbyterian-St. Luke's Medical Center.

Lake Forest Hospital Affiliates

On March 1, Lake Forest Hospital officially became the eighth affiliate hospital in the Rush System for Health. A new not-for-profit corporation, the Lake Forest/Rush Health Care System, Inc., will oversee implementation of the affiliation agreement, which specifies that Lake Forest will be the sole Lake County regional healthcare provider for the Rush System for Health, and will become a primary provider for Rush Prudential Health Plans.

Telemedicine Brings Rush Care Closer to Home

Images of the heart are being sent from Copley Memorial Hospital to Rush over a communication system with the power of 24 phone lines. The long-distance echocardiogram is a new service of the Rush Children's Hospital's cardiology program. While young patients are tested at Copley, physicians at Rush watch on a monitor, saving children and their families the 50-mile trip to Chicago. Ultrasound detects defects that may require immediate attention, such as holes in the heart, leaky valves or signs of improper blood circulation. Pediatric cardiologists at Rush are on the Copley medical staff. The Rush Heart Institute offers services at Rush North Shore Medical Center in Skokie and at Holy Family Medical Center in Des Plaines.

New Hospice Service in System

Dying patients can remain at home and obtain relief from pain and help for themselves and their families throughout the

Services of Rush Hospice Partners allowed Olga Mala to remain in her home until shortly before her death this summer.

Rush System for Health. Beginning in April 1995, Rush Hospice Partners began doing business as a separate, not-for-profit corporation. It combines hospice services previously offered through Westlake Hospital's Community Nursing Service West and Illinois Masonic Medical Center with the resources of the Rush Home Care Network.

Hospice care offers services of a full spectrum of healthcare professionals as well as medical supplies and equipment. Hospice patients receive all drugs necessary to control symptoms and relieve pain, short-term inpatient care when required, homemaker services and bereavement counseling for the family.

Rush Cancer Institute Opens Satellite in Niles

The Holy Family Imaging Center, affiliated with the Rush Cancer Institute, opened in May. Physicians from the Rush Cancer Institute provide diagnostic and treatment services at the center, including chemotherapy and radiation therapy. The center also has diagnostic X-ray, mammography, ultrasound and CT scanning.

System Expands to Southwest

Kankakee's Riverside Health System began affiliation negotiations with the Rush System in late summer. Riverside Health System is the parent corporation of Riverside Medical Center, a 348-bed comprehensive hospital in far south suburban Kankakee. In addition to the hospital, Riverside Health System includes a network of outpatient facilities in surrounding communities, addiction services, and a continuum of senior adult care from a retirement community to a skilled nursing facility.

Illinois Masonic Nurses Join Rush Faculty

About 20 Illinois Masonic nurses have been appointed to the faculty of Rush University's College of Nursing. Undergraduate and graduate nursing students from Rush have completed practicums at Illinois Masonic. Rush and Illinois Masonic also offer several joint continuing education programs.

Rush Behavioral Health at Lake Forest Hospital

North suburban residents can now take advantage of addiction treatment services closer to home. Rush Behavioral Health, a program of the Rush Institute for Mental Well-Being, opened a new center in July on the campus of Lake Forest Hospital. The center includes programs geared to impaired professionals, including up to two years of therapeutic support, and a comprehensive eating disorders program. In conjunction with Lake Forest Hospital's Center for Rehabilitation, the program also offers help for those with addiction to pain killers that developed due to treatment for chronic pain.

Rush Behavioral Health offers programs for chemical dependency at the westside campus, in downtown Chicago and in Downers Grove.

Family Practice Center Grows

Opened in 1993, the Rush-Illinois Masonic Family Practice Center now cares for more than 1,000 patients each month with a staff of 20 residents—family medicine physicians-in-training—and seven full-time Rush faculty members. Since August, residents have also provided inpatient services at Illinois Masonic.

Rush-Copley Campus Opens

The new Rush-Copley Medical Center campus opened in the fall, and patients moved to the new Copley Memorial Hospital in November. Other facilities will be built on the campus site, including a day care center, a satellite facility for Waubonsee Community College and a community fitness center.

The new Copley Memorial Hospital sits on the 98-acre Rush-Copley Medical Center campus.

Rush Home Care Network nurse Linda Santos, RN, visits Mary Lou Zelasney and her newborn daughter, Ava, at home.

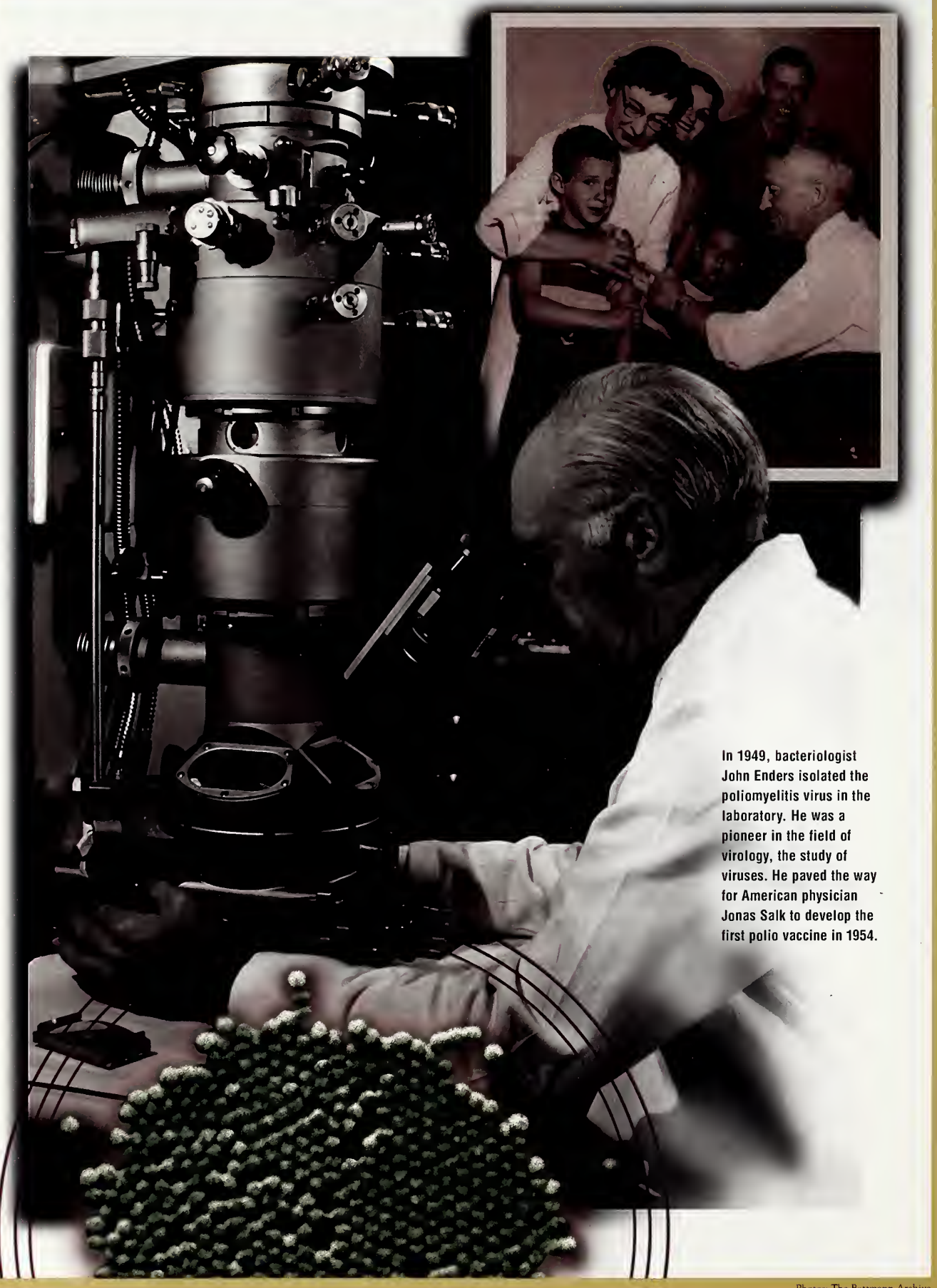
20 Years of Home Care

Rush Home Care Network celebrated 20 years of service in September. The network grew out of a teaching project to give practical experience in the community to student nurses at Rush University's College of Nursing. From a service area of just a few miles, it has become a network serving all of Chicago and the western and northwestern suburbs.

It has grown from 2,500 visits a year to 2,500 visits a month, and from eight nurses to 200 nurses and other health professionals.

Infertility Services Offered at Rush North Shore

The full range of infertility services offered at the Medical Center are now available in the northern suburbs at the Rush North Shore Center for Advanced Reproductive Care. Services include insemination surgery, in vitro fertilization (IVF) and other assisted reproduction techniques. Laboratories will be established at Rush North Shore for tests and other procedures. In operation since 1984, the IVF program at Rush is the only program in Illinois with an accredited fellowship program to train physicians in reproductive endocrinology. Since 1984, 354 babies have been born through the program.



In 1949, bacteriologist John Enders isolated the poliomyelitis virus in the laboratory. He was a pioneer in the field of virology, the study of viruses. He paved the way for American physician Jonas Salk to develop the first polio vaccine in 1954.

Photos: The Bettmann Archive

James DiFilippo and his wife, Mary, are enjoying his life with a new heart.

A Year of New Beginnings for Rush Heart Patients

In 1991, a massive heart attack destroyed more than half of James "Flip" DiFilippo's heart. After a series of bypass operations proved unsuccessful, DiFilippo was referred to the Heart Failure and Cardiac Transplant Program of the Rush Heart Institute.

Last May, the 51-year-old Indiana resident received a new heart—and a chance for a future he hadn't been sure he would see.

DiFilippo is one of more than 50 men, women and children who have received heart transplants since the program was expanded in July 1994. In its first year, it has become the fifth busiest heart transplant program in the country.

Creating a More Healing Environment for Patients

In the summer of 1995, Rush unveiled two fully renovated units, designed to support the philosophy of patient care called RushCare. Whether they are outpatients or inpatients, patients will come to the units throughout their treatment and see the same healthcare professionals. Many tests, such as heart biopsy, that had required a

Nursing stations in new units are accessible to patients.

Rush transplant cardiologist Walter Kao,MD, visits with a patient on the new heart unit.

trip to another part of the hospital, will be available on the units.

Both units have undergone complete reconstruction to make them more patient centered, and more comfortable and attractive. All rooms are private and the units are organized around the needs of the patient rather than the staff. In addition to patient rooms, the units feature testing and treatment facilities with state-of-the-art technology, rooms for family conferences, libraries and comfortable family waiting areas.

The unit on the eighth floor of the Kellogg Pavilion houses patients with severe heart muscle disease, or cardiomyopathy, as well as those awaiting or recovering from heart transplants. The unit on the 11th floor houses cancer patients.

Scanner Shows Body at Work

New technology at Rush shows physicians how well an organ—such as the brain or heart—is functioning. Late last year, Rush opened the first center in Chicago to offer positron emission tomography, or PET scanning. While the CT scan and MRI can show structure of an organ, the PET scanner can distinguish areas—such as part of a heart muscle—with no metabolic activity, which means the tissue has died. It can also identify areas of rapid activity that indicate cancerous growth.

By injecting a short-lived radioactive material into the patient's body, doctors can see the amount of damage the heart has suffered after a heart attack or measure the extent of cancer's spread throughout the body. The PET scanner helps measure the effects of chemotherapy or radiation therapy by showing the difference between active tumors and residual scar tissue, which may look the same on an X-ray. It is also useful in evaluating neurologic conditions, including dementia and epilepsy.

James T. Frankenbach, new senior vice president for hospital affairs, chats with cardiac surgeon Marshall Goldin, MD.

New Senior Vice President Named at Rush

James T. Frankenbach returned to Rush July 1 as senior vice president for hospital affairs, succeeding Truman Esmond.

For the past four years, Frankenbach served as president and chief executive officer of Rush North Shore Medical Center in Skokie. Before joining Rush North Shore, he spent 13 years at Rush-Presbyterian-St. Luke's, where he ultimately became assistant vice president for finance.

Frankenbach earned a bachelor of science degree in accounting from Northern Illinois University and a master of business adminstration degree from Loyola University in Chicago.

Alzheimer's Day Care Center Moves to New Home

Preserving the spirit and dignity of people with dementia has been the goal of the Alzheimer's Family Care Center since it opened in 1987. In spring, the center moved to larger quarters near Peterson and Cicero avenues on the north side, and the program can now care for twice as many patients.

A joint effort of the Rush Alzheimer's Disease Center, the West Side Veterans Affairs Center, and the Greater Chicagoland chapter of the Alzheimer's Association, the center provides day care that encourages activity and independence.

The center helps people with Alzheimer's enjoy life, such as client Bernice Angelo, with her daughter, Honey Johnson.

Quick-drying paste sets fractured bones without pins or grafts.

Paste May Speed Bone Healing

A compound that may help people with wrist fractures is under study at Rush. Researchers at the Rush Arthritis and Orthopedics Institute are participating in a national study of an artificial bone substance called Norian SRS that appears to mimic real bone so well that new bone cells grow into it. A toothpaste-like substance made of calcium and phosphate, minerals similar to natural bone, Norian SRS is injected through the skin into spaces in the wrist created by fractures. In about 10 minutes, it sets into a substance as hard and strong as natural bone.

Norian SRS could eliminate the need for bone grafts or metals pins, plates and screws to repair severe breaks. It could be used to treat the 200,000 wrist fractures suffered each year by people with osteoporosis.

Rheumatoid arthritis causes swelling, pain and, ultimately, fusion of the joints.

Breakthrough at Rush in Rheumatoid Arthritis

Two million Americans—two-thirds of them women—suffer from rheumatoid arthritis, a chronic and destructive form of joint inflammation. Rheumatoid arthritis can cause severe pain and cripple joints, leading to multiple joint replacement surgeries.

Scientists at the Rush Arthritis and Orthopedics Institute recently reached a breakthrough after 20 years of research into this disease. They identified an antibody that dramatically reduces joint inflammation in laboratory animals afflicted with symptoms of rheumatoid arthritis. Clinical trials of the antibody in patients are expected to begin in late 1996.

Rush Forms Physician-Hospital Group

Rush physicians have joined with hospital administration to form Rush-Presbyterian-St. Luke's Health Associates. The new physician-hospital organization (PHO) has nearly 500 members.

The PHO will negotiate contracts with insurance companies to provide healthcare services at a set cost.

CAMPAIGN ENTERS VICTORY LAP

As the five-year, $160 million-dollar Campaign for Rush reached its midway point at the end of 1994, donors continued to generously support many of the campaign's programs with gifts of time and money. During the year ending June 30, 1995, individuals, families, corporations and foundations made gifts and pledges totaling $17 million, putting the campaign over its dollar goal with nearly $168 million received.

Already, many of the campaign's program goals have been surpassed. But a number of campaign programs still require funding, including the campaign's top priority, a research building. Funding the $39 million research building will be the primary focus of the remainder of the campaign. About $25 million is needed before construction can begin on this important facility, which will house Rush University's growing research endeavors. A significant donor continues to be sought to name the building, for which plans are currently being drawn. Other campaign programs that are undersubscribed will also be emphasized in the period before the campaign officially ends in December 1996.

The proposed research building (architect's rendering) will allow Rush to continue to attract the highest caliber researchers.

NEW PROGRAMS AND FACILITIES

A ribbon-cutting ceremony marked the official dedication of the Joseph and Florence Manaster Outpatient Facility of the Rush Multiple Sclerosis Center. A $7 million gift to the Campaign for Rush from the Joseph and Florence Manaster Foundation allowed Rush to double the size of the existing facility.

At the Rush Cancer Institute grand opening, cancer survivors, donors, volunteers, staff and members of the Chicago Bears pledged to continue the fight against cancer.

Philanthropic gifts from the Nalco Foundation, IBM, the Field Foundation of Illinois and the Cuneo Foundation were critical in paving the way for the grand opening of the Alzheimer's Family Care Center's new facility on Chicago's northwest side. The Woman's Board has pledged to raise $500,000 for the Rush Alzheimer's Disease Center and the Alzheimer's Family Care Center. Families of clients are also

helping to build the center through donations of time or memorial gifts.

The Stanton A. Friedberg, MD, Rare Book Room of the Rush University Library was formally dedicated and named. Dr. Friedberg, a 1934 Rush Medical College graduate who has served on the medical staff for 58 years, has devoted years to collecting and cataloging many of the rare historical books in the library's collection.

Five New Endowed Chairs Established

Five new endowed chairs were established at Rush University in the past year, bringing the total to 67. The goal is to have 75 such endowed chairs by the close of the Campaign for Rush.

Three people who played important roles in the development of the Rush System for Health were honored posthumously with endowed chairs in their names. The Abraham Chervony, MD, Professorship in Medical Affairs, the 63rd chair of Rush University and the first chair at Rush North Shore Medical Center, recognizes the late Dr. Chervony's 29 years of devoted service to Rush North Shore and the integral role he played in Rush North Shore's affiliation with the Medical Center.

The John H. and Margaret V. Krehbiel Professorship in Cardiology serves as an important memorial to the Krehbiels, recalling their dedication, service and philanthropy to Rush. John Krehbiel served as a Rush Trustee for many years before his death, and he and his wife, Margaret, were loyal and generous donors.

In recognition of their long and distinguished careers and their dedication to patient care, physicians Floyd A. Davis, MD, and Frank Hendrickson, MD, were honored with endowed chairs in their names in multiple sclerosis and radiation oncology, respectively.

The past year also saw the formal dedication of several programs and facilities that are supported by philanthropic dollars.

Murray Manaster and his wife, Ina, flank Mrs. Joseph (Doris) Manaster at the opening of the Joseph and Florence Manaster Outpatient Facility of the Rush Multiple Sclerosis Center.

At the grand opening of the new Alzheimer's Family Care Center facility: Donors Susan Gottlieb (left) and her brother, David Meitus (right), with Dorothy Seman, MS, RN (center left), the center's clinical coordinator, and Jane Stansell, MS, RN, the center's director.

Support Fuels Rush Research

The campaign's first pledge was completed when the 68th Annual Fashion Show helped the Woman's Board go over the top of its pledge of $5 million for the Woman's Board Depression Treatment & Research Center in the Rush Institute for Mental Well-Being.

The Lucille P. Markey Charitable Trust's gift of $1 million will support a promising Rush Cancer Institute project exploring how blood cells form. The investigators hope that a better understanding of this process will allow for the design of effective treatments for blood disorders such as leukemia.

Working for a Common Cause

During the past year, many generous people contributed their time to a common cause: to raise money for research at Rush.

The Associates and the Justin Carl Suth SIDS Research Board hosted events and raised money for research in pediatric oncology and sudden infant death syndrome within the Rush Children's Hospital.

The Jazzercize Marathon, the Brian Piccolo Golf Day and Run, and the Diane O'Brien Sports Day offered people from the Chicago area the chance to have fun and get some exercise while raising money for breast cancer research at Rush.

To all who have supported the many programs at Rush through donations of time and money, thank you.

In 1953, English biophysicist Francis Crick and American geneticist James Watson identified the double helix structure of the molecule called deoxyribonucleic acid (DNA), which is present on the chromosomes in the nucleus of virtually every cell and contains a genetic blueprint of the organism in which it is found. Their analysis opened up the world of molecular biology and genetics.

Photos: The Bettmann Archive

Rush-Presbyterian-St. Luke's Medical Center

Rush-Presbyterian-St. Luke's Medical Center is the center of a comprehensive, cooperative healthcare system designed to serve some 2 million people through its own resources and in affiliation with other healthcare institutions in northern Illinois and Indiana.

It includes Rush University, which comprises Rush Medical College, the College of Nursing, the College of Health Sciences, the Graduate College, and a cooperative educational network of 15 liberal arts colleges and universities in six states from Tennessee to Colorado.

Rush is a center for basic and clinical research, with physicians and scientists involved in nearly 1,500 investigations, many of them involving two or more disciplines.

The seven Rush Institutes draw together patient care and research to address major health problems, offering primary healthcare services as well as the latest treatments for arthritis and orthopedic problems, cancer, heart disease, mental illness, diseases associated with aging and neurological problems.

Offering a full range of healthcare services, the Rush System for Health also includes Rush Occupational Health, Rush Home Care Network, Rush Hospice Partners, Rush Prudential Health Plans, Rush Corporate Health Center, Rush Center for Women's Medicine and ArcVentures, a subsidiary.

Presbyterian-St. Luke's Hospital, a major referral center, provides care from the most basic to the most advanced for patients from metropolitan Chicago and across the country. Other patient care components of the Rush System for Health are the Johnston R. Bowman Health Center for the Elderly, a rehabilitation and skilled nursing facility at the Medical Center; Copley Memorial Hospital, in Aurora; Rush North Shore Medical Center, in Skokie; Holy Family Medical Center, in Des Plaines; Illinois Masonic Medical Center, in Chicago; Oak Park Hospital, in Oak Park; Westlake Community Hospital, in Melrose Park; and Lake Forest Hospital, in Lake Forest.

In all, Rush-Presbyterian-St. Luke's includes more than 10,000 people—medical and scientific staff, faculty, students and employees—committed to providing the best care with compassionate attention to the needs of every patient.

Licenses

Department of Public Health, State of Illinois
Cook County Board of Health

Memberships

American Hospital Association
Illinois Hospital Association
Metropolitan Chicago Health Care Council
Federation of Independent Illinois Colleges and Universities
Association of American Medical Colleges
American Association of Colleges of Nursing
American Association of Allied Health Professions
Association of University Programs in Health Administration
Association for Health Services Research
Voluntary Hospitals of America

Approvals and Accreditations

Joint Commission on Accreditation of Healthcare Organizations
Commission for Accreditation of Rehabilitation Facilities
Liaison Committee on Medical Education
Department of Registration and Education, State of Illinois
North Central Association of Colleges and Schools
National League for Nursing
Council on Accreditation of Educational Programs for Nurse Anesthesia
American Dietetic Association
Accrediting Commission on Education for Health Services Administration
Accreditation Council on Graduate Medical Education
Association for Clinical Pastoral Education
Commission on Accreditation for Allied Health Education Programs: Accreditation Committee on Perfusion Technology
National Accrediting Agency for Clinical Laboratory Sciences
American Council for Occupational Therapy Education
American Speech-Language and Hearing Association—Educational Standards Board

Financial Summary

Treasurer's Report

The financial statements of Rush North Shore Medical Center and Rush/Copley Health System, Inc. have been consolidated with those of Rush-Presbyterian-St. Luke's Medical Center for financial reporting.

The Rush-Presbyterian-St. Luke's Health Plans combined with the Chicago area health plans of Prudential Insurance Company of America to form a joint venture, Rush Prudential Health Plans, effective August 1, 1993. The financial statements of the health plans are consolidated with the Medical Center for fiscal years 1991 to 1993. In 1995 and 1994 the joint venture is treated as any equity investment.

The operating results in fiscal year 1995 reflect consolidated net income of $20.6 million after the write down of facilities and equipment of the existing Copley Memorial Hospital to their net realizable value. Copley will move to its new hospital facility in November, 1995.

The total fund balances (equities), restricted and unrestricted at June 30, 1995, were $600.7 million compared to $454.6 million in 1991.

The cash and marketable securities of the consolidated entities totaled $529.8 million at June 30, 1995.

Long-term debt of the consolidated entities decreased $11.5 million in fiscal year 1995 to $301.3 million.

Endowment funds at June 30, 1995, totaled $212.4 million, an increase of $55.0 million over the $157.4 million in 1991. Contributions and bequests for endowment funds totaling $38.8 million were received over the past five years. The trusts for which the Medical Center is an income beneficiary had a market value of $18.7 million at June 30, 1995. The trusts are held by various financial institutions and are not included in the Medical Center's financial statements.

The external research awards in 1995 were $36.0 million, an increase of $14.3 million, 63%, compared to 1991. Awards from the National Institutes of Health were 52% of the total awards in 1995 compared to just 38% five years ago.

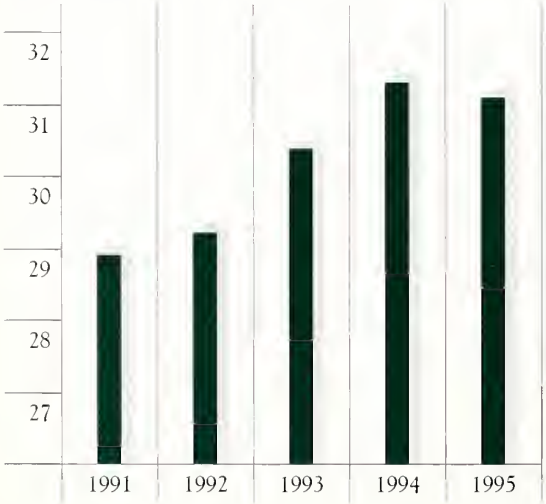
The Medical Center and its affiliates ended fiscal year 1995 in a solid financial condition as a result of continued philanthropic support, increasing grants for research, and favorable operating results.

Donald R. Oder

Treasurer

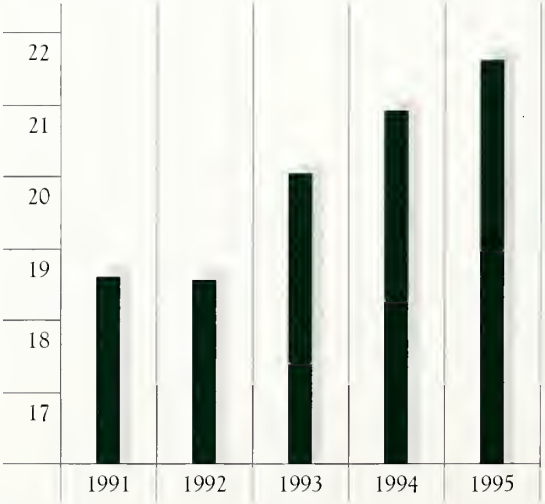
Admissions & Observation Cases

(#s in thousands)



Operations Performed

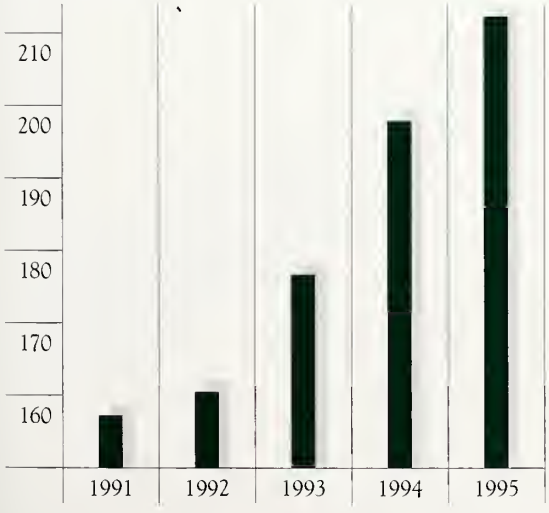
(#s in thousands)



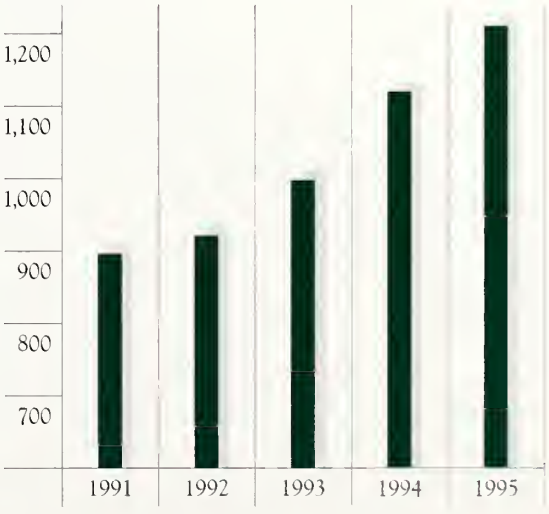
Rush-Presbyterian-St. Luke's Medical Center
Consolidated Balance Sheets ($ in millions)

	Fiscal Year ended June 30				
	1995	1994	1993	1992	1991
Assets					
Current assets:					
Cash and investments	$187.6	$101.2	$119.3	$97.1	$113.3
Accounts receivable	132.2	154.4	134.5	130.3	123.2
Other	15.0	16.1	18.7	16.1	17.1
Total current assets	**$334.8**	**$271.7**	**$272.5**	**$243.5**	**$253.6**
Property and equipment, net	$465.7	$408.0	$413.7	$388.7	$352.0
Restricted investments	144.2	207.1	116.0	116.2	122.9
Endowment	212.4	197.7	176.6	160.6	157.4
Other assets	53.5	37.8	21.1	13.7	12.3
Total assets	**$1,210.6**	**$1,122.3**	**$999.9**	**$922.7**	**$898.2**
Liabilities & Fund Balances					
Current liabilities	$223.6	$168.9	$186.8	$148.4	$165.4
Self-insurance programs	85.0	81.1	51.4	45.9	44.5
Long-term debt	301.3	312.8	248.2	251.7	233.7
Total liabilities	**$609.9**	**$562.8**	**$486.4**	**$446.0**	**$443.6**
Fund balances	**$600.7**	**$559.5**	**$513.5**	**$476.7**	**$454.6**
Total liabilities & fund balances	**$1,210.6**	**$1,122.3**	**$999.9**	**$922.7**	**$898.2**

Endowment Growth
($ in millions)



Growth in Total Assets
($ in millions)



Rush-Presbyterian-St. Luke's Medical Center
Consolidated Statements of Revenue, Expenses ($ in millions)

	Fiscal Year ended June 30				
Revenues	**1995**	**1994**	**1993**	**1992**	**1991**
Patient services, net	$653.1	$570.3	$547.8	$493.2	$443.2
University services	73.8	70.7	63.0	59.1	49.9
Prepaid health plan premiums	—	—	199.3	194.3	185.9
Investment income	13.2	9.3	7.5	9.0	10.4
Unrestricted contributions & bequests	5.1	3.5	6.5	2.8	4.1
Other	91.3	91.7	82.5	67.8	54.1
Total revenues	**$836.5**	**$745.5**	**$906.6**	**$826.2**	**$747.6**
Expenses					
Salaries, wages & employee benefits	$430.1	$384.6	$428.7	$404.9	$368.0
Supplies, utilities and other	325.0	279.6	409.7	359.9	324.2
Depreciation and amortization	43.3	38.5	39.1	35.8	33.4
Interest	15.0	15.5	14.2	13.1	11.9
Total expenses	**$813.4**	**$718.2**	**$891.7**	**$813.7**	**$737.5**
Write-down of facilities and related equipment, net	**2.5**	**—**	**—**	**—**	**—**
Special credit for gain on Rush Health Plans joint venture transaction	**—**	**8.1**	**—**	**—**	**—**
Net income before cumulative effect of change in accounting	**$20.6**	**$35.4***	**$14.9**	**$12.5**	**$10.1**

** Special charge for change in accounting for post-retirement benefits of $25.3 reduced net income in 1994 to $10.1*

Consolidated Statements of Fund Balances ($ in millions)

	Fiscal Year ended June 30				
Fund Balances	**1995**	**1994**	**1993**	**1992**	**1991**
General funds	$351.9	$322.8	$310.4	$291.6	$276.2
Endowment and other restricted funds	219.5	203.5	181.6	165.1	160.8
Funds restricted for construction	14.9	15.2	4.6	4.4	3.5
Student loan funds	14.4	18.0	16.9	15.6	14.1
Total funds balances	**$600.7**	**$559.5**	**$513.5**	**$476.7**	**$454.6**

Today, scientists are crossing the new frontier of genetic research. Just as human beings evolved from simpler life forms, so genetics has evolved from studies of bacteria and insects, still valuable sources of knowledge about the proteins and other substances that make up all life forms. The most ambitious genetic study is the Human Genome Project, a $3 billion, 15-year project funded by the National Institutes of Health, to map and sequence all 100,000 genes that comprise a human being. Scientists believe that genetic research will yield solutions to a host of problems, from cancer to birth defects.

Photos: The Bettmann Archive

Statistical Summary

Rush-Presbyterian-St. Luke's Medical Center

	Fiscal Year ended June 30				
	1995	1994	1993	1992	1991
Presbyterian-St. Luke's Hospital & Johnston R. Bowman Health Center for the Elderly					
Admissions & observation cases	31,085	31,343	30,380	29,247	28,916
Average length of stay (days)	7.6	7.9	8.2	8.3	8.9
Patient days	209,614	226,279	241,792	242,938	258,369
Average daily census	574	620	662	666	708
Operations performed:					
Inpatient	9,479	10,163	11,785	11,729	12,118
Outpatient	12,167	10,744	8,239	6,845	6,484
Emergency room visits	37,085	33,894	37,097	37,220	37,077
Uncompensated care (1) ($ in millions)	25.0	26.0	24.8	27.2	N/A
Rush North Shore Medical Center (2)					
Admissions & observation cases	9,577	6,927	9,590	9,710	9,740
Average length of stay (days)	6.4	6.7	6.4	6.3	6.8
Patient days	61,299	46,444	61,140	61,564	66,415
Average daily census	168	170	168	169	182
Operation performed:					
Inpatient	2,862	2,025	2,835	2,677	2,574
Outpatient	3,599	2,581	3,635	2,958	2,911
Emergency room visits	16,652	11,608	15,432	15,402	15,537
Uncompensated care (1) ($ in millions)	1.2	1.7	1.7	2.1	N/A
Copley Memorial Hospital (3)					
Admissions & observation cases	8,731	5,873	6,236	6,806	7,195
Average length of stay (days)	5.2	5.7	5.6	5.6	5.4
Patient days	45,557	33,496	35,436	38,031	39,268
Average daily census	83	92	97	104	107
Operation performed:					
Inpatient	3,233	2,295	2,594	2,837	3,049
Outpatient	3,265	3,291	3,392	3,747	3,762
Emergency room visits	32,535	22,505	21,000	22,225	22,126
Uncompensated care (1) ($ in millions)	5.7	2.5	2.0	2.1	N/A

(1) Uncompensated costs incurred for patient care, including charity care, bad debts and cost exceeding reimbursement for Medicaid patients.

(2) Rush North Shore Medical Center 1994 includes only nine months of information.

(3) Copley Memorial Hospital 1995 includes 18 months of information.

Rush System for Health Hospital and Health Services

	Licensed Beds	Admissions & Observation Cases	Patient Days	Average Length of Stay	Operations Performed	Emergency Room Visits
Presbyterian-St. Luke's Hospital & Johnston R. Bowman Health Center	1,003	31,085	209,614	7.6	21,646	37,085
Rush North Shore Medical Center	289	9,577	61,299	6.4	6,461	16,652
Copley Memorial Hospital	293	8,731	45,557	5.2	6,498	32,535
Illinois Masonic Medical Center	507	25,933	108,173	4.3	8,770	35,713
Holy Family Medical Center	252	8,420	34,681	4.9	5,255	18,889
Synergon Hospitals	551	16,554	92,982	5.6	8,376	32,199
Lake Forest Hospital (1)	261	2,034	13,346	8.2	1,407	4,986
Total Hospital & Health Services	**3,156**	**102,334**	**565,652**	**5.9**	**58,413**	**178,059**

(1) Lake Forest Hospital includes only three months of information.

Rush University

Faculty and Staff

Rush Medical College	2,628
College of Nursing	351
College of Health Sciences	228
The Graduate College	133
Medical Staff	1,450
Employees	8,324

Student Body

Rush Medical College	498
College of Nursing	611
College of Health Sciences	211
The Graduate College	65
Rush University unclassified students	85
Residents and fellows	629

Research

Research projects in progress	1,630
Research publications	1,873
Research awards, 1994-1995	$35,976,124

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Beloit College

Carleton College

Colorado College

Cornell College

DePauw University

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Illinois Benedictine College

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*Deceased

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